

joint is pivotable about at least a radial axis.

2. The geared drive system of claim 1 wherein the pivotable joints are located with respect to the planet carrier such that a resultant driving force acting on the planet carrier and a resultant reaction force exerted by the pivotable joints on the carrier are axially coincident.

3. The geared drive system of claim 1 wherein the sun gear assembly is the input gear assembly, the planet gear assembly is the output gear assembly and the ring gear assembly is stationary with respect to the sun gear assembly and the planet gear assembly.

4. The geared drive system of claim 1 wherein the joints comprise spherical bearings.

5. The geared drive system of claim 4, wherein:

a first end of the torque transfer structure terminates in a plurality of arms each having a substantially axial first hole therethrough, and each spherical bearing comprises:

a housing secured to the planet carrier and stationary with respect thereto,

a ball disposed within the housing and capable of pivotable motion with respect thereto about at least the radial axis, each ball also being connected to a corresponding one of the plurality of arms.

6. The geared drive system of claim 1 wherein:

the first end of the torque transfer structure terminates in a plurality of arms each having a radially extending hole therethrough,

the carrier includes a plurality of corresponding radially extending holes, and

a trunnion is radially disposed through each radially extending hole and through each corresponding hole to pivotably join the torque frame to the carrier.

7. The geared drive system of claim 1 wherein the sun gear, the ring gear, and the plurality of planet gears are bihelical.

8. A geared drive system for a bladed propulsor, comprising:

a planetary gear train including:

a sun gear assembly comprising a sun gear driven by a source of input torque,

a ring gear assembly comprising a ring gear stationary with respect to the sun gear assembly, a planet gear assembly including a plurality of planet gears supported in a planet carrier by journals and disposed mechanically intermediate of and in meshing engagement with the sun gear and the ring gear whereby the planet carrier is urged to rotate by a resultant driving force, the planet carrier having a forward end plate and a rear end plate abuttingly mated to each other, the abutting contact between the plates extending over a substantial portion of the circumference of the carrier, the forward end plate also having a plurality of apertures;

a torque transfer structure for driving a load, the torque transfer structure being rotatable about a central axis and having a first end terminating in a series of discrete, independently flexible arms, each arm having a proximal end and a distal end, each arm projecting axially through a corresponding end plate aperture, at least a portion of the distal end of each arm being at a radius greater than that of the planet gear axes, the torque transfer structure also having a second end connected to a rotating component; and

a plurality of joints circumferentially disposed with respect to the carrier, each of said joints being, with respect to a load path through the gear train, mechani-

cally intermediate the torque transfer structure and the planet gear assembly and each joint being pivotable about at least a radial axis for joining the planet carrier to the distal ends of the arms, each joint exerting a resultant reaction force on the carrier and wherein the joints are axially positioned with respect to the carrier such that the resultant reaction force is axially coincident with the resultant driving force at the axial midpoint of the planet gears for transmitting the resultant driving force from the carrier to the arms without imposing torsional deflection on the carrier.

9. A geared drive system for a bladed propulsor, comprising:

a planetary gear train including:

a sun gear assembly comprising a sun gear driven by a source of input torque,

a ring gear assembly comprising a ring gear stationary with respect to the sun gear assembly,

a planet gear assembly comprising a plurality of planet gears supported in a planet carrier by journals and disposed mechanically intermediate of and in meshing engagement with the sun gear and the ring gear whereby the planet carrier is urged to rotate by a resultant driving force, the planet carrier having a forward end plate and a rear end plate abuttingly mated to each other, the abutting contact between the plates extending over a substantial portion of the circumference of the carrier, the forward end plate also having a plurality of apertures;

a torque transfer structure for driving a load, the torque transfer structure being rotatable about a central axis and having a first end terminating in a series of discrete, independently flexible arms, each arm having a proximal end and

a distal end, each arm projecting axially through a corresponding end plate aperture, at least a portion of the distal end of each arm being at a radius greater than that of the planet gear axes, the torque transfer structure also having a second end connected to a rotating component; and

a plurality of joints circumferentially disposed with respect to the carrier, each of said joints being, with respect to a load path through the gear train, mechanically intermediate the torque transfer structure and the planet gear assembly and each joint being pivotable about at least a radial axis for joining the planet carrier to the distal ends of the arms, each joint exerting a resultant reaction force on the carrier and wherein the joints are axially positioned with respect to the carrier on a common plane perpendicular to the central axis and at the axial midpoint of the planet gears for transmitting the resultant driving force from the carrier to the arms without imposing torsional deflection on the carrier.

10. A geared drive system as in claim 8 wherein the sun gear assembly is an input gear assembly for receiving torque from a source thereof the ring gear assembly is an output gear assembly for delivering torque to a load, the planet carrier is stationary, and the second end of the torque transfer structure is connected to a nonrotating structure.

11. A geared drive system as in claim 9 wherein the sun gear assembly is an input gear assembly for receiving torque from a source thereof the ring gear assembly is an output gear assembly for delivering torque to a load, the planet carrier is stationary, and the second end of the torque transfer structure is connected to a nonrotating structure.